Claims

1. In an agricultural harvester having a crop processing unit comprising a rotating crop processing member within a housing having a grate, a latch mechanism for attaching the grate to the crop processing unit comprising:

a support bar extending along the crop processing unit for supporting the grate;

a support receptacle extending along the grate for supporting the grate from the support bar, the support receptacle having an upper lip with a pry hole, and a lower lip with a retaining slot, the support bar being enveloped by the support receptacle when the grate is attached to the crop processing unit by the latch mechanism;

a latch handle for securing the support receptacle against the support bar, the latch handle having a handle end, a handle body, and a pry nose, the pry nose being inserted into the pry hole, and handle body seating against the support bar when the grate is attached to the crop processing unit by the latch mechanism;

a latch retainer for securing the latch handle against the support bar, the latch retainer having a retainer body, and a handle slot, the retainer body extending through the retainer slot, and the handle end extending through the handle slot when the grate is attached to the crop processing unit by the latch mechanism.

2. The latch mechanism defined in Claim 1 further comprising a latch pin for securing the latch retainer to the latch handle, the latch pin extending through a retainer pin hole on the latch retainer, and the latch pin extending through a handle pin hole on the latch handle when the grate is attached to the crop processing unit by the latch mechanism.

3. The latch mechanism defined in Claim 2 wherein the support bar is oriented parallel to the rotating crop processing member.

4. The latch mechanism defined in Claim 3 wherein the support bar is cylindrical, and the support receptacle is concave, the latch mechanism being adapted such that the grate is pivotally attached relative to the crop processing unit.

5. The latch mechanism defined in Claim 4 wherein the retainer further comprises a retainer seat, the retainer seat being seated against the lower lip of the

support receptacle when the grate is attached to the crop processing unit by the latch mechanism.

6. The latch mechanism defined in Claim 5 wherein the grate is a concave.

7. The latch mechanism defined in Claim 1 wherein the support bar is oriented parallel to the rotating crop processing member.

8. The latch mechanism defined in Claim 7 wherein the support bar is cylindrical, and the support receptacle is concave, the latch mechanism being adapted such that the grate is pivotally attached relative to the crop processing unit.

9. The latch mechanism defined in Claim 8 wherein the retainer further comprises a retainer seat, the retainer seat being seated against the lower lip of the support receptacle when the grate is attached to the crop processing unit by the latch mechanism.

10. The latch mechanism defined in Claim 9 wherein the grate is a concave.

11. The latch mechanism defined in Claim 1 wherein the support bar is cylindrical, and the support receptacle is concave, the latch mechanism being adapted such that the grate is pivotally attached relative to the crop processing unit.

12. The latch mechanism defined in Claim 11 wherein the retainer further comprises a retainer seat, the retainer seat being seated against the lower lip of the support receptacle when the grate is attached to the crop processing unit by the latch mechanism.

13. The latch mechanism defined in Claim 12 wherein the grate is a concave.

14. In an agricultural harvester having a crop processing unit comprising a rotating crop processing member within a housing having a grate, a latch mechanism for attaching the grate to the crop processing unit comprising:

a cylindrical support bar oriented parallel to the rotating crop processing member and extending along the crop processing unit for supporting the concave;

a concave shaped support receptacle extending along the grate for supporting the grate from the support bar, the support receptacle having an upper lip with a pry hole, and a lower lip with a retaining slot, the support bar being enveloped by the support receptacle when the grate is attached to the crop processing unit by the latch mechanism;

a latch handle for securing the support receptacle against the support bar, the latch handle having a handle end, a handle body, and a pry nose, the pry nose being inserted into the pry hole, and handle body seating against the support bar when the grate is attached to the crop processing unit by the latch mechanism;

a latch retainer for securing the latch handle against the support bar, the latch retainer having a retainer body, and a handle slot, the retainer body extending through the retainer slot, and the handle end extending through the handle slot when the grate is attached to the crop processing unit by the latch mechanism;

a latch pin for securing the latch retainer to the latch handle, the latch pin extending through a retainer pin hole on the latch retainer, and the latch pin extending through a handle pin hole on the latch handle when the grate is attached to the crop processing unit by the latch mechanism.

15. The latch mechanism defined in Claim 14 wherein the retainer further comprises a retainer seat, the retainer seat being seated against the lower lip of the support receptacle when the grate is attached to the crop processing unit by the latch mechanism.

16. The latch mechanism defined in Claim 14 wherein the grate is a concave.

17. The latch mechanism defined in Claim 16 wherein the grate is a concave.

18. In an agricultural harvester having a crop processing unit comprising a rotating crop processing member within a housing having a grate, and a latch mechanism comprising a support bar extending along the crop processing unit, a support receptacle extending along the grate, a latch handle, and a latch retainer, the support receptacle having an upper lip with a pry hole, and a lower lip with a retaining slot, the latch handle having a handle end, a handle body, and a pry nose, and the latch retainer having a retainer body, and a handle slot, a method for attaching the grate to the crop processing unit with the latch mechanism comprising:

placing the grate in a desired location along the crop processing unit and lifting the grate such that the support receptacle envelops the support bar;

inserting the pry nose of the latch handle into the pry hole on the upper lip of the support receptacle from a side of the upper lip adjacent to the support bar;

moving the handle body of the latch handle toward the support bar by the

handle end, through the retainer slot on the lower lip, and against the support bar until the support receptacle is substantially seated against the support bar;

placing the latch retainer against the latch handle such that the handle slot of the retainer envelops the handle end, and the retainer body aligns with the retainer slot on the lower lip of the support receptacle;

forcing the latch retainer into the retainer slot.

19. The method for attaching the grate to the crop processing unit with the latch mechanism described in Claim 18 wherein the retainer further comprises a retainer seat, the method further comprising forcing the latch retainer into the retainer slot until the retainer seat is against the lower lip of the support receptacle.

20. The method for attaching the grate to the crop processing unit with the latch mechanism described in Claim 19 wherein the latch mechanism further comprises a latch pin, a retainer pin hole on the latch retainer, and a handle pin hole on the latch handle, the method further comprising inserting the latch pin into both the retainer pin hole on the latch retainer and the latch pin hole on the latch handle after the latch retainer has been forced into the retainer slot.

21. The method for attaching the grate to the crop processing unit with the latch mechanism described in Claim 20 wherein the grate is a concave.

22. The method for attaching the grate to the crop processing unit with the latch mechanism described in Claim 18 wherein the latch mechanism further comprises a latch pin, a retainer pin hole on the latch retainer, and a handle pin hole on the latch handle, the method further comprising inserting the latch pin into both the retainer pin hole on the latch retainer and the latch pin hole on the latch handle after the latch retainer has been forced into the retainer slot.

23. The method for attaching the grate to the crop processing unit with the latch mechanism described in Claim 22 wherein the grate is a concave.